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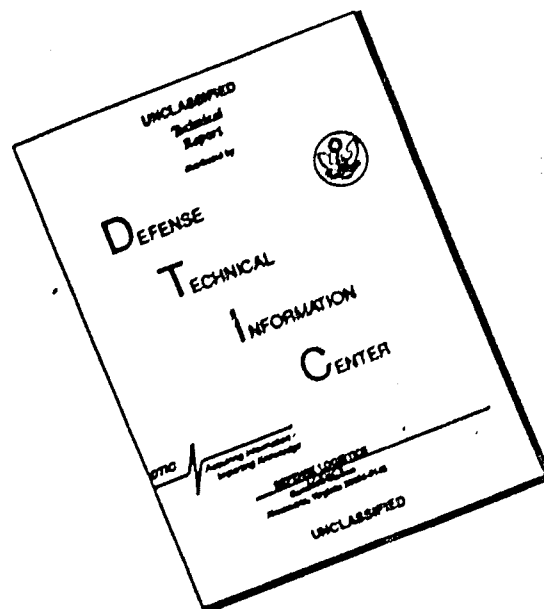
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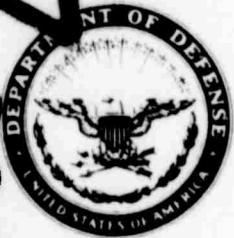
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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

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AGDA-A (M) (1 Apr 71) FOR OT UT 704056

9 April 1971

SUBJECT: Operational Report - Lessons Learned, Headquarters, 46th
Engineer Battalion, Period Ending 31 October 1970

SEE DISTRIBUTION

1. The attached report is forwarded for review and evaluation in accordance with para 4b, AR 525-15.
2. The information contained in this report is provided to insure that lessons learned during current operations are used to the benefit of future operations and may be adapted for use in developing training material.
3. Information of actions initiated as a result of your evaluation should be forwarded to the Assistant Chief of Staff for Force Development, ATTN: FOR OT UT within 90 days of receipt of this letter.

BY ORDER OF THE SECRETARY OF THE ARMY:

Verne L. Bowers
VERNE L. BOWERS
Major General, USA
The Adjutant General

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 46TH ENGINEER BATTALION
APO San Francisco 96491

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EGB-OF

14 November 1970

SUBJECT: Operational Report - Lessons Learned, 46th Engineer Battalion,
Period ending 31 October 1970, RCS CSFOR-65 (R2).

THRU: Commanding Officer, 159th Engineer Group, ATTN: EGB-OF APO 96491.
Commanding General, 20th Engineer Brigade, ATTN: AVBI-US, APO 96491.
Commanding General, USAECV (P), ATTN: AVCC-MC, APO 96491.
Commanding General, United States Army, Vietnam, ATTN: AVHDC-DC
APO 96375.
Commander-in-Chief, United States Army, Pacific, ATTN: GPOF-DT,
APO 96588.

TO: Assistant Chief of Staff for Force Development
Department of the Army (ASFOR-DA)
Washington, D.C. 20310

Section 1, Operations: Significant Activities

1. Command: LTC Joseph L Spruill commanded the 46th Engineer Battalion during the last reporting period.

a. The 46th Engineer Battalion organized under MTOE 05-115-GF04 per GO #609 Headquarters USARPAC dated 31 July 1969 effective 25 October 1969.

b. Mission: to construct and rehabilitate roads, airfields, heliports, pipeline systems, structures and utilities for the Army and the Air Force in the communications zone and rear areas of the combat zone; and to assist in emergency recovery operations.

c. ACR: At the beginning of this reporting period the unit area of responsibility was encompassed by a line starting at the South China Sea (YT 8163) and proceeding northerly along the western border of the Binh Tuy Province. It proceeds westerly along the southern border of Long Khanh Province to highway LTL-2, northerly along LTL-2 to YS439956, and westerly along a secondary road to YS 319937 on the western border of Long Khanh Province to the southern border of Duc Tu District, westerly along the southern border of Duc Tu District to L-15, and northwesterly to the Dong

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Nai River. It proceeds northerly and easterly along the Dong Nai River to the eastern border of Bien Hoa Province, southerly along the eastern border of Bien Hoa Province to the Suot Gia Duc River, and easterly along the Suot Gia Duc River to QL-20. From QL-20 it runs easterly parallel to QL-1 and approximately 1,600 meters north and then east of QL-1 until it reaches the railroad tracks east of Xuan Loc. It follows the railroad track easterly to the eastern border of Binh Tuy Province. then south along this border to the South China Sea Coast, then west along the South China Sea coast to the western border of Binh Tuy Province. However, on 10 September 1970 the concept of unit AOR's was discontinued eliminating the use of a defined unit area of responsibility other than those areas most adjacent to assigned unit projects.

d. Assignment: The 46th Engineer Battalion is assigned to the 159th Engineer Group. It was assigned to the 159th Engineer Group Command on 25 September 1965 and became operational in Vietnam on 4 October 1965.

e. Movements, Attachments, and Detachments:

(1) On 30 September 1970, D Company (minus), 46th Engineer Battalion, completed its move from FSB Eagle (YT778389) to Phu Loi (XT837144) to complete the QL-22 Loc project partially completed by the 79th Engineer Group.

(2) On 1 November 1970, the 103rd Engineer Company (CS) (minus) completed its move from Mesor quarry (XT974127) to Nui Le quarry (XT657068) to open the Nui Le Industrial Complex now under construction and in partial operation.

f. Visitors and Awards:

(1) Visitors:

<u>Name</u>	<u>Position</u>	<u>Date</u>
LTC Mc Caffrey	Deputy CG USAFV	16 Oct 70
MG Noble	CG USMACV (P)	24 Aug 70
EG O'Donnell	CG 20th Engr Bde	15 Aug 70
		3 Sep 70
		18 Sep 70
BG Cooper	CG 20th Engr Bde	2 Oct 70
		13 Oct 70
		21 Oct 70
		23 Oct 70

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Period Ending 31 October 1970, RCS CSFQA-65 (R2).

<u>Name</u>	<u>Position</u>	<u>Date</u>
BG Watkin	Deputy CG USAECV (P)	23 Oct 70
COL Wray	Dir of Const USAECV (P)	29 Sep 70
LTC Stidham	Chief of Opns	9 Oct 70
COL Brown	C.O. 159th Engr Gp.	5 Aug 70
		12 Aug 70
		15 Aug 70
		11 Sep 70
		24 Sep 70
LTC Ehlers	Chief LOC Branch USAECV(P)	29 Sep 70
LTC Hy	ARVN OCE	20 Oct 70
MAJ Whitehead	DA-OFO	26 Sep 70

(2) The following awards have been presented during the reporting period:

(a) Bronze Star	36
(b) ARCOM	106

2. Personnel, Morale, and Discipline:

a. Personnel:

(1) The consolidated strength figures for the reporting period are as follows:

(a) As of 31 August 1970:

	<u>Off</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
<u>1</u> Authorized	35	9	998	1042
<u>2</u> Assigned	30	7	984	1021

(b) As of 30 September 1970:

<u>1</u> Authorized	35	9	998	1042
<u>2</u> Assigned	30	7	1024	1061

(c) As of 31 October 1970:

<u>1</u> Authorized	35	9	998	1042
<u>2</u> Assigned	29	7	1021	1057

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SUBJECT: Operational Report Lessons Learned, 46th Engineer Battalion,
Period Ending 31 Oct 1970, RCS SCFOR-65 (R2)

(2) Critical shortage of personnel was experienced throughout the reporting period. The following is a list of MOS's most critical in the accomplishment of the battalion's mission at the end of the reporting period.

<u>MOS</u>	<u>TITLE</u>	<u>AUTHORIZED</u>	<u>ASSIGNED</u>	<u>SHORT</u>
51D20	Mason	12	6	6
51H40	Construction Foreman	32	20	12
51H50	Construction Foreman	5	3	3
51K20	Plumber	37	23	14
52F20	Electrician	37	8	29
52G20	High Voltage Lineman	9	4	5
62M40	Construction Machine Foreman	23	16	7
64B20	Heavy Truck Driver	88	67	21
51C30	Structure Specialist	6	0	6

(3) Due to the existing shortages of critical MOS's, this headquarters has taken the following steps to alleviate the problem:

(a) Proper requisitions have been submitted to higher headquarters.

(b) Records of newly assigned personnel are thoroughly screened, and where possible secondary MOS's are utilized to fill critical shortages.

(c) On-the-job training is being employed by commanders to fill shortages.

b. Morale:

(1) The morale has remained very high throughout the battalion during the reporting period.

(2) Minor improvements of facilities and living conditions continued throughout the battalion.

(3) 55 men voluntarily extended their tours of duty for six months or longer during the reporting period and received a 30 day special leave. 48 men extended their tours less than 6 months.

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SUBJECT: Operational Report Lessons Learned, 46th Engineer Battalion,
Period Ending 31 Oct 1970, RCS SCFOA-65 (R2)

(4) The reenlistment rate improved during the reporting period with 12 first term and 2 career men reenlisting.

(5) A total of 149 men received out of country R&R trips to Bangkok, Hong Kong, Hawaii, Sydney, and Taipei.

(6) Many recreational facilities and activities are provided for members of the battalion including swimming pool, movies, service clubs, athletic programs, and commercial entertainment at EM/NCO clubs.

c. Discipline:

(1) Discipline problems remained at approximately the same level as the previous period. Emphasis continues to be placed on punishment under Article 15, UCMJ instead of trial by Court-Martial.

(2) Following is a summary of punishment imposed within the reporting period:

(a) One-hundred and twenty-two (122) Article 15, UCMJ

(b) No (0) Summary Court-Martial

(c) Nine (9) Special Court-Martial

(d) Casualties: During the current reporting period, the 46th Engineer Battalion suffered the following casualties:

(1) Killed in Action 0

(2) Wounded in Action 0

(3) Non-hostile Deaths 0

3. Intelligence:

a. The battalion intelligence section has maintained a map board showing all significant enemy activity which has occurred recently near operations sites. The board is updated using the INTBUN report, and information from it is presented to the companies at a daily operations meeting.

b. During this period minor enemy activity occurred at battalion work sites. No direct contacts resulted.

4. Operations, Plans and Training:

a. Completed Projects:

(1) Combat/Operational Support:

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(a) 117-5632-0-20, Upgrade Road FSB Henderson B Company, 46th Engineer Battalion: Upgraded 1 km of pioneer road between QLL and entrance to FSB Henderson (YT 181108) by providing compacted laterite fill. Project started on 31 Aug 70 and was completed 26 Sep 70.

(b) 143-5622-0-20, Berms and Gunpads, FSB Rivera, C Company, 46th Engineer Battalion: Provided dozer to extend berm and level gun emplacements. Project started 27 Jul 70 and was completed 4 Aug 70.

(c) 146-5639-0-20, Lowbed support, 46th Engineer Battalion: Provided 3 lowbeds with 10-ton tractors to the 62nd Engineer Battalion (LC). Project started 18 Sep 70 and was completed 20 Sep 70.

(d) 189-5631-0-20, Improvements FSB Flowers, B Company, 46th Engineer Battalion: Improved fields of fire by clearing and upgraded defensive berms. Project started 18 Aug 70 and was completed 27 Aug 70.

(e) 189-5636-0-20, Lowbed support, 46th Engineer Battalion: Provided 7 lowbeds with 10-ton tractors to the 62nd Engineer Battalion (LC). Project started 15 Sep 70 and was completed on 22 Sep 70.

(f) 191-5628-0-20, Lowbed support, 46th Engineer Battalion: Provided 4 lowbeds with 10-ton tractors to the 62nd Engineer Battalion (LC). Project started 15 Aug 70 and was completed 19 Aug 70.

(g) 207-6015-0-20, Precut Bunkers, III CTZ Advisor, Xuan Loc, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued 1 Rose bunker, 5 Columbine bunkers, and 2 ammo storage bunkers. Project was started 22 Dec 69 and was completed 28 Sep 70.

(h) 207-6433-0-20, Tool Containers, 20th Engineer Brigade, Carpenter Shop, 46th Engineer Battalion: Precut and constructed 18 tool containers to specification for 20th Engineer Brigade Aviation Section. Project started 13 Aug 70 and was completed 26 Sep 70.

(i) 207-6448-0-20, Issue of Construction Material, 20th Engineer Brigade, Carpenter Shop, 46th Engineer Battalion: Issued 500 BF (16' lengths) of 2x4, 72 sheets (2' x 10') of corrugated metal for self help construction of C SOC. Project was started on 24 Aug 70 and was completed 30 Sep 70.

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Period Ending 31 Oct 1970, RCS CSFOR-65 (R2)

(j) 207-6497-0-20, Patching, Bien Hoa Army Base, D Company, 46th Engineer Battalion: Patched 100 meters of asphalt roadway at main entrance to Bien Hoa Army Base. Project was started 24 Sep 70 and completed 30 Sep 70.

(k) 207-6502-0-20, GP Large Tent Erection, 103rd Engineer Company (CS): Furnished, erected and dismantled one GP large tent for change of command ceremony, 20th Engineer Brigade H.Q. Project was started on 27 Sep 70 and completed on 30 Sep 70.

(l) 212-6305-0-20, Precut Bunkers, 2/12 Artillery, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued 6 rose bunkers. Project was started on 2 Jun 70 and completed 19 Sep 70.

(m) 212-6395-0-20, Rearm Pad Revetments, Cu Chi, D Company, 46th Engineer Battalion: This project was transferred to the 92nd Engineer Battalion with no work accomplished or materials expended. Project was transferred on 28 Aug 70.

(n) 212-6407-0-20, Precut Bunkers, LZ Buttons, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued 22 Columbine bunkers to 79th Engineer Group. Project was started 26 Jul 70 and completed 10 Oct 70.

(o) 212-6438-0-20, Material Issue, 79th Engineer Group, 103rd Engineer Company (CS): Issued 70 CY of 3/4"(-) overflow from the asphalt plant at Resor Quarry to the 79th Engineer Group. Project was started 14 Aug 70 and was completed 16 Aug 70.

(p) 217-6321-1-23, Revetment Support, 92nd Engineer Battalion, D Company, 46th Engineer Battalion: This Project was cancelled with no work accomplished or material expended. Project was cancelled on 20 Sep 70.

(q) 217-6361-1-23, Aviation Facility, Di An, D Company, 46th Engineer Battalion: This project was cancelled with no work accomplished or materials expended. Project was cancelled on 20 Sep 70.

(r) 217-6529-0-20, Repair of HSR 25, D Company 46th Engineer Battalion: Repaired road surfaces and shoulders on HSR 25 between Di An and AF Tan. Project started 20 Oct 70 and was completed 30 Oct 70.

(s) 243-5353-0-20, Precut Latrines, 7th Transportation Battalion, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued four 4-hole latrines. Project started 20 Oct 70 and was completed 23 Oct 70.

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SUBJECT: Operational Report - Lessons Learned, 46th Engineer Battalion,
Period Ending 31 Oct 1970, MCS CSFOR-65 (R2)

(t) 243-6155-0-20, Helipad repair at Ham Tan, C Company, 46th Engineer Battalion: This project was cancelled with no work accomplished or material expended. Project was no longer required by customer and was cancelled on 29 Aug 70.

(u) 243-6155-0-20, Passive Defense Bunkers, LBP, Carpenter shop, 46th Engineer Battalion: This project was cancelled with no work accomplished or material expended at request of customer. Project was cancelled on 22 Aug 70.

(v) 243-6173-0-20, Expansion of Precut Reinforced concrete Revetment Facility, LBN, D Company, 46th Engineer Battalion: Extended existing casting slab 40' and constructed new 10' x 120' casting slab. Project was started 17 Jun 70 and completed 27 Aug 70.

(w) 243-6271-1-23, Revetments at Sanford Army Airfield, D Company, 46th Engineer Battalion: This project was transferred to the 92nd Engineer Battalion with no work accomplished or materials expended. Project was transferred on 28 Aug 70.

(x) 243-6303-0-20, Precast concrete revetments, D Company, 46th Engineer Battalion: This project was transferred to the 92nd Engineer Battalion with no work accomplished or materials expended. Project was transferred on 28 Aug 70.

(y) 243-6400-0-20, Concrete Forms, Bien Hoa, 46th Engineer Battalion: Provided 400 LF of steel concrete forms to the 79th Engineer Group. Project started 19 Jul 70 and was completed 31 Oct 70.

(z) 243-6431-0-20, MAC-LOC Tamper Boxer, Carpenter Shop, 46th Engineer Battalion: Constructed and issued 27 Tamper boxes to various units of the 20th Engineer Brigade. Project was started 9 Aug 70 and completed 28 Sep 70.

(aa) 243-6446-1-23, Precast Concrete Revetments, D Company 46th Engineer Battalion: Precast and issued 42 4.8' revetments and 84 booters. Project was started 19 Aug 70 and cancelled on 7 Sep 70.

(bb) 243-6450-0-20, Precut Bunkers, 79th Maintenance Company, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued 10 Daisy bunkers. Project was started 28 Aug 70 and completed 12 Sep 70.

(cc) 243-6528-0-20, Precut Bunkers, 79th Engineer Group, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued 4 columbine bunkers. Project was started 17 Oct 70 and completed 22 Oct 70.

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Period Ending 31 Oct 1970, RCB CSFOR-65 (R2)

(dd) 246-6466-1-23, Precast Revetments for Bear Cat, D Company, 46th Engineer Battalion: Precast 40 5.5' revetments and 80 footers. Project was started 13 Sep 70 and completed 20 Sep 70.

(ee) 251-6548-0-20, Lowbed Support, 46th Engineer Battalion: Provided 2 lowbeds with 10-ton tractors to the 34th Engineer Battalion. Project was started 23 Oct 70 and completed 30 Oct 70

(ff) 253-6283-0-20, Precut Bunkers, 6/27 Artillery, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued 4 rose bunkers. Project was started 16 May 70 and completed 13 Sep 70.

(gg) 253-6285-0-20, Precut Bunkers, FSB Thunder III, Carpenter Shop 46th Engineer Battalion: This project was cancelled with no work accomplished or material expended. Project was cancelled 1 Aug 70.

(hh) 289-6386-0-20, Rearm Point Bern, B Company 46th Engineer Battalion: Constructed 2 Rearm points for AH-1G cobra gunships. Each rearm point consists of 2 9' 10" walls, one 24' long and the other 36' long, constructed with M8.1 matting and earth fill. The Project was started on 26 Jul 70 and completed on 3 Aug 70.

(ii) 289-6393-0-20, Operational Support, 199th LIE, C Company and D Company, 46th Engineer Battalion: Constructed 1200 meters of earth berm, 19 Columbine bunkers, and tactical wire at FSB Eagle. Constructed, one 100' x 100' class I, area, four 30' x 100' class III areas, four 50' x 50' FSB mace. Installed a 160' M4T6 bridge, 265 feet of culvert and 80 feet of timber bridging on routes 333, 334 and 335. Repaired a class 18 Eiffel Bridge, a partially destroyed concrete slab bridge, and filled low spots with laterite and blast rock on the same MSR. Project was started 2 Aug 70 and was transferred on 12 Sep 70. Project was transferred to the 31st Engineer Battalion for maintenance of the MSR.

(jj) 289-6412-0-20, Airfield Upgrade, C Company 46th Engineer Battalion: Upgraded 1/0 Dat Airfield to C130 Standards by Filling, recompacting and penepriming. Project was started 10 Aug 70 and was completed 24 Aug 70.

(kk) 289-6413-0-20, M4T6 Bridge, C Company 46th Engineer Battalion: Installed 75 feet of M4Ty bridging with reinforced trestles on route 333 at GC YT 67:198. Project was started 27 Aug 70 and completed on 29 Aug 70.

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SUBJECT: Operational Report - Lessons Learned, 46th Engineer Battalion,
Period ending 31 October 1970, RGS CSFOR-65 (R2)

(11) 289-6440-0-20, Dry Span, C Company, 46th Engineer Battalion:
Installed a 30 foot section dry span using five stiffeners and no trestles.
Project was started 15 Aug 70 and completed 18 Aug 70.

(mm) 289-6441-0-20, Dry Span, D Company, 46th Engineer Battalion:
Installed three 15' dry spans on route 335. Project was started 20 Aug 70
and completed 15 Sep 70.

(nn) 289-6445-0-20, Drainage for FOL Berna, 46th Engineer Battalion:
Issued five each 6" x 12' pipe and five each 6" valves for drainage of FOL
berms, 1st Aviation Brigade. Project was started 20 Aug 70 and completed
13 Sep 70.

(oo) 289-6457-0-20, Earth moving support, C Company, 46th Engineer
Battalion: Provided four 830 pans and two graders to the 31st Engineer
Battalion. This project was started 8 Sep 70 and completed 25 Sep 70.

(pp) 289-6467-0-20, Closing of 199th LTB FSB's D Company, 46th
Engineer Battalion: This project was transferred to the 79th Engineer Group
with no work accomplished or material expended. Project was transferred
10 Sep 70.

(qq) 289-6470-0-20, Engineer equipment support, C Company, 46th
Engineer Battalion: Provided one 13 wheel roller and one asphalt distributor
to 31st Engineer Battalion. Project was started 5 Sep 70 and completed
25 Sep 70.

(rr) 291-0298-2-20, Base Camp Security Man-hour Reporting, 46th
Engineer Battalion: This project was a means for reporting construction
time lost due to security, measuring the impact of security requirements on
the construction program. Project was started 13 Apr 70 and was completed
24 Sep 70.

(ss) 291-6421-0-20, Dry Span, C Company, 46th Engineer Battalion:
Installed one 30' dry span on route 335. Project started 20 Aug 70 and was
completed 26 Aug 70.

(2) MACV Advisor Facilitis: None

(3) Minimum Essential Requirements:

(a) 343-5353-0-20, MER for 79th Engineer Group, Carpenter Shop 46th
Engineer Battalion: Prefabricated and issued four 4-hole latrines. Project
started Oct 70 and was completed 24 Oct 70.

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Period Ending 31 October 1970, RCU CSFOM-65 (R2)

(b) 391-5311-6-20, MER for 25th Infantry Division, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued ten 4-hole latrines and six 6-head showers. Project started 18 Mar 70 and was completed on 28 Sep 70.

(c) 391-5313-3-20, MER for 79th Engineer Group, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued one 4-hole latrine. Project started 25 Apr 70 and was completed 16 Aug 70.

(d) 391-5313-4-20, MER for 588th Engineer Battalion Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued three 4-hole latrines, three 6-head shower and two 8' water towers. Project started 15 Jul 70 and was completed 17 Aug 70.

(e) 391-5313-5-20, MER for 1st Cavalry Division Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued ten 4-hole latrines and five 6-head showers with water towers and tanks. Project was started 29 Jul 70 and completed 5 Aug 70.

(f) 391-5313-6-20, MER for 1st Cavalry Division, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued seven 4-hole latrines and nine 6-head showers with water towers and tanks. Project was started 15 Aug 70 and was completed 26 Aug 70.

(g) 391-5314-3-20, MER for 25th Infantry Division, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued fifteen 4-hole latrines and thirteen showers with water towers. Project started 24 May 70 and was completed 15 Oct 70.

(h) 391-5314-9-20, MER for 90th Replacement Battalion, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued two 4-hole latrines. Project started 15 Jul 70 and was completed 24 Aug 70.

(i) 391-5315-1-20, MER for 11th Air Cavalry Regiment, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued eight 4-hole latrines and eleven 6-head showers with water towers. Project started 14 Jul 70 and was completed 17 Aug 70.

(j) 391-5315-6-20, MER for 510th Engineer Company, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued three 4-hole latrines and two 6-head showers. Project started 23 Jul 70 and was completed 2 Aug 70.

(k) 391-5315-7-20, MER for CG Long Binh Post, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued two 4-hole latrines. Project started 9 Aug 70 and was completed 24 Aug 70.

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SUBJECT: Operational Report - Lessons Learned, 46th Engineer Battalion,
Period Ending 31 October 1970, RCS CSFOR-65 (k2)

(1) 391-5315-9-20, MER for 4th Psyops Battalion, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued one 6-head shower. Project started 1 Aug 70 and was completed 25 Aug 70.

(m) 391-5316-2-20, MER for 54th Ordnance Company, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued two 4-hole latrines. Project started 16 Aug 70 and was completed 24 Aug 70.

(n) 391-5316-3-20, MER for 39th Signal Battalion, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued two each 4-hole latrines. Project started 13 Aug 70 and was completed 24 Aug 70.

(o) 391-5316-5-20, MER for 23rd Artillery, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued two 4-hole latrines. Project started 25 Aug 70 and was completed 28 Aug 70.

(p) 391-5316-8-20, MER for 1st Cavalry Division, FSB Mace, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued twenty-five 4-hole latrines and twelve 6-head showers with water towers. Project started 1 Oct 70 and was completed 13 Oct 70.

(q) 391-5316-9-20, MER for 1/21st Artillery, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued three 4-hole latrines. Project started 25 Sep 70 and was completed 29 Sep 70.

(4) Lines of Communications:

(a) 489-0305-0-01, Bridge Design and Construction Q11, Xuan Loc Gia May, C Company, 46th Engineer Battalion: Constructed a steel stringer, concrete deck, 40' x 60' vehicular bridge. Project began 6 May 70 and was completed 26 Aug 70.

(5) Base Construction:

(a) 43-280-01-T-7S(a), Outdoor Recreational Facilities, Long Binh, D Company, 46th Engineer Battalion: This project was terminated with no work accomplished or material expended. Project was terminated on 15 Sep 70.

(b) 512-0314-0-01, Dog Kennels, Cu Chi, 79th Engineer Group D Company, 46th Engineer Battalion: Issued 1600 block to the 538th Engineer Battalion. Project started 15 Aug 70 and was completed 30 Oct 70.

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(c) 543-0306-0-01, Cantonment Facilities, 6th Transportation Battalion, D Company, 46th Engineer Battalion: Constructed ten 20' x 48' concrete pads for 20' x 48' Pascoe buildings: provided building and technical assistance for erection. Also prepared D form 1354 (Transfer and acceptance of military real property) and coordinated inspection for turn over to PA & E of Long Binh Post. Project was started 25 Jul 69 and completed 9 Sep 70.

(d) 543-0315-0-01, Concrete Block Shop, USAFVIS, D Company, 46th Engineer Battalion: This project was cancelled with no work accomplished or material expended. Project was cancelled on 13 Oct 70.

(e) 573-0311-1-23, Lot Slip Pier, D Company, 46th Engineer Battalion: Precast four 20' x 11' x 6 1/2" concrete reinforced deck slabs with mooring bits and curbs. Project started 6 Jul 70 and was completed 13 Aug 70.

(6) Revolutionary Development Support: None

(7) Materials Issue:

(a) 707-5304-0-20, Hot Mix Issue, PA & E, Bien Hoa Army Base, 103rd Engineer Company (CS), 46th Engineer Battalion: Issued 75 tons of hot mix to PA & E. Project was started 10 Aug 70 and terminated 15 Aug 70.

(b) 707-5310-0-20, Aggregate Issue, 175th Radio Research Company, Bien Hoa, 103rd Engineer Company (CS), 46th Engineer Battalion: Issued 28 CY of 3/4"(-) aggregate to the 175th Radio Research Company. Project started 29 Aug 70 and was completed 29 Aug 70.

(c) 789-5302-0-20, Base Camp Maintenance, Camp Pratt, C Company, 46th Engineer Battalion: Performed R & U maintenance of base camp or necessary. Project started 5 Aug 70 and was terminated 31 Oct 70.

(d) 791-0301-2-20, ARVN Dependent Housing, 46th Engineer Battalion: Issued 70% of materials required by project scope. Project was started 30 Oct 69 and terminated 30 Oct 70.

b. Projects which are active and upon which work will continue into next reporting period:

(1) Combat/Operational Support:

(a) 145-5652-0-20, Lowbed Support, 46th Engineer Battalion: Provided three lowbeds with ten-ton tractors to the 62nd Engineer Battalion (LC). Project was started 31 Oct 70 and is 75% completed.

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(b) 207-6544-0-20, Carpenter Support, Bien Hoa Army Base Post Engineer, Carpenter Shop, 46th Engineer Battalion: Provided four Vietnamese carpenters to the Post Engineer, Bien Hoa Army Base for perimeter maintenance project. Project started 21 Oct 70 and is 95% completed.

(c) 212-6304-0-20, Precut Bunkers, 2/12 Artillery, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued three Rose Bunkers. Project started 1 June 70 and is 50% completed.

(d) 217-6361-0-20, Aviation Facility, Di An, D Company, 46th Engineer Battalion: Continued earthwork on an aviation parking area formerly being constructed by another unit for the 11th Armored Cavalry Regiment. Replaced undesirable fill, recompact and shaped areas as required. Project was transferred from the 34th Engineer Battalion on 15 Oct 70 and is now 90% completed.

(e) 243-5911-0-23, Precut Bunkers, 90th Replacement Battalion, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued fifteen Columbine bunkers. Project started 10 Dec 69 and is 94% completed.

(f) 243-6277-0-20, Precut Bunkers, 266th S&S Battalion (DS), Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued six Columbine bunkers. Project started 22 Jun 70 and is 36% completed.

(g) 243-6297-0-20, Precut Bunkers, 2/35th Artillery, Carpenter Shop, 46th Engineer Battalion: Precut and issued three Rose Bunkers. Project started 9 Jun 70 and is 75% completed.

(h) 243-6346-0-20, Precut Bunkers, U.S.G Long Binh Post, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued two Columbine bunkers. Project started 7 Sep 70 and is 30% completed.

(i) 243-6465-0-20, Precut Towers, 3rd Ordnance Battalion, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued two Tulip towers. Project was started 31 Oct 70 and is 6% completed.

(j) 243-6515-0-20, Penepine Loading Dock, A Company, 46th Engineer Battalion: Started earthwork on new penepine yard and loading dock for the 46th Engineer Battalion. Project started 6 Oct 70 and is 20% completed.

(k) 243-6527-0-20, Precut Bunkers, 29th General Support Group, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued four Columbine bunkers. Project started 18 Oct 70 and is 34% completed.

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(l) 243-6539-0-20, Perimeter wire, Long Binh Post, Headquarters Company, 46th Engineer Battalion: Began replacing 3000 meters of concertina perimeter barrier wire between bunkers number 398 and 408, LBF perimeter. Project started on 30 Oct 70 and is 5% complete.

(m) 246-6442-0-20, Aircraft Shelters, Long Thanh North, D Company, 46th Engineer Battalion: Drilled holes and placed support poles with anchors for six YO-3A aircraft shelters of a new design. Project started 1 Oct 70 and is 25% completed. Work has suspended on 15 Oct 70; the project is awaiting redesign of shelters.

(n) 287-6282-0-20, Precut Bunkers, 2/35th Artillery, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued one Rose bunker. Project started on 12 Sep 70 and is 50% completed.

(o) 289-6489-0-20, Precut Bunkers, 1st Cavalry Division, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued twenty-two Columbine bunkers. Project started 29 Sep 70 and is 82% completed.

(p) 289-6505-0-20, Precut Bunkers, Nui Le Industrial Complex, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued ten Columbine bunkers. Project started 30 Sep 70 and is 71% completed.

(q) 289-6537-0-20, Road repair, Xuan Loc, B Company, 46th Engineer Battalion: Filled pot holes and improved drainage along road between B Company, 46th Engineer Battalion compound and Huskey Compound. Project started 21 Oct 70 and is 20% completed.

(r) 291-6216-0-20, Precut Bunkers, IIFV Artillery, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued ten Rose bunkers. Project started 23 April 70 and is 71% completed.

(s) 291-6308-1-23, Base Camp Maintenance, Long Binh, 46th Engineer Battalion: Prefabricated and issued eight 2-hole latrines and repaired perimeter bunkers as required. Project started 4 Jun 70 and is continuous.

(t) 291-6308-5-23, Base Camp Maintenance for Resor, Xuan Loc and Gia Ray, 103rd, B and C Companies, 46th Engineer Battalion: Maintained defensive structures as necessary. Project started 4 Jun 70 and is continuous.

(u) 291-6551-1-23, Construction Materials Operations, 46th Engineer Battalion: Requisitioned, stocked and stored construction materials as required. Project started 27 Oct 70 and is continuous.

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(2) MACV Advisor Facilities: None

(3) Minimum Essential Requirements:

(a) 343-5320-0-20, MER for 1st Aviation Brigade, D Company, 46th Engineer Battalion: Earthwork underway for two 1000' rotary wing runways and four hoverpoints, near Sanford AFB, Long Binh Post. Project started 16 Sep 70 and is 15% completed.

(b) 346-5349-0-20 MER for 229th Assault Helicopter Battalion, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued six 4-hole latrines and four 6-head showers. Project started 25 Oct 70 and is 91% completed.

(c) 391-5315-5-20, MER for 2/25th Infantry, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued fifteen 4-hole latrines and eight 6-head showers. Project started 16 Jul 70 and is 74% completed.

(d) 391-5316-6-20, MER for 31st Engineer Battalion, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued four 4-hole latrines and two 6-head showers. Project started 26 Aug 70 and is 75% complete.

(e) 391-5317-1-20, MER for Qui Le Crusher Complex, Carpenter Shop, 46th Engineer Battalion: Prefabricated and issued four 4-hole latrines and one 6-head shower. Project started 2 Oct 70 and is 56% completed.

(4) Lines of Communication:

(a) 98-219 LOC, LOC Restoration QL-22, D Company, 46th Engineer Battalion: Project transferred from the 79th Engineer Group for the completion of shoulder work and asphalt repair for turnover. Placed 2.1 kilometers of base rock for DBST shoulder and 100 tons of asphalt for repair of road surface. Project was transferred 1 Oct 70 and shoulders are 34.2% completed.

(b) 489-0302-0-01, LOC Restoration QL-1, B Company, 46th Engineer Battalion: Subgrade base rock, and two lifts of pavement on 16.5 kilometers of QL-1 are complete. Placed 11.6 kilometers of shoulder base rock and 7.9 kilometers of DBST have been completed. Side road culverts have been placed and drainage improved over the first 18.5 kilometers of QL-1. Project was started 14 Nov 69 and is 98% completed.

(c) 489-0303-0-01, LOC Restoration QL-1, C Company 46th Engineer Battalion: Completed subgrade, base rock, and two lifts of pavement on 19.8 kilometers of shoulder base rock. Minor drainage and shoulder work remain. Project started 1 Dec 69 and is 95% completed.

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(a) 489-0307-0-01, ARVN LOC Support, C Company, 46th Engineer Battalion: Issued 24,800 cubic yards of 3/4"(-) asphalt aggregate and 50,300 cubic yards of 2"(-) base rock under this directive to date. Project started 28 Apr 70 and is continuous.

(5) Base Construction:

(a) 43-350-01, 195th AHC BQ and BQ Construction, Plantation, D Company, 46th Engineer Battalion: This project consists of providing technical assistance, equipment assistance and construction materials for the construction of BQ's. A total of ten buildings are complete with one more near completion. Project started 17 Feb 70 and is 75% completed.

(b) 43-352-01, 117th AHC Cantonment Facilities, D Company, 46th Engineer Battalion: Ten se. huts have been constructed for troop billeting. Project was started 17 Feb 70 and is 60% completed.

(c) No CD assigned, Nui Le Industrial Complex and Cantonment, 103rd Engineer Company (Cs), C and D Companies, 46th Engineer Battalion: Constructed a new cantonment area to include protective berms, MPFA living quarters, defensive bunkers, perimeter wire, lighting, 200 man mess hall, 3200 sq. foot maintenance slab, and MEF. Work accomplished on the new crusher facility includes a 150' x 16' headwall to feed the two primary jaw crushers, four support slabs for crusher units, a support slab for syntron feeder unit, earthwork and drainage on major road net, a helipad, and initial work on primary power distribution and control system. Project was started 1 Sep 70 and is 70% complete. DD form 1391's have been submitted on this project; however, no construction directive number has been assigned to date.

(6) Revolutionary Development Support: None

(7) Materials Issue:

(a) 707-5306-0-20, Hot Mix Issue, III CTZ Engineer, 103rd Engineer Company, (Cs), 46th Engineer Battalion: Issued 588 tons of asphaltic concrete this period for a total of 1198 tons to date. Project started 8 Jul 70 and is 75% completed.

(b) 717-0302-0-01, Construction Material Issued to 103rd ROKFV Engineer Company, 46th Engineer Battalion: Issued 1000 bags of cement, 32,000 BF of Lumber, and various electrical supplies this period. Project started 19 Sep 70 and is 70% completed.

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LGBD-OP

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(c) 773-5304-0-20, Hot Mix Issue to Gia Dinh Public Works, 103rd Engineer Company (Co), 46th Engineer Battalion: Issued 293 tons of asphaltic concrete this period for a total of 1518 tons of date. Project started 10 Jan 70 and is 83% completed.

(d) 789-5309-0-20, Base Camp Maintenance, Xuan Loc, B Company, 46th Engineer Battalion: Maintained facilities as required. Project started 22 Aug 70 and is continuous.

c. Engineer Plans:

The crushing facilities at Mesor quarry have been relocated to Nui Le (YT 6607) and plans have been formulated to move the crushing facility at Gia Ray (YT 6309) to Nui Le also for support of the ARVN Restoration of QL1.

d. Plant Operations:

(1) 103rd Engineer Company (Co) conducted the following activities during this period:

(a) Quarry Production: 2905 CYs of 2"(-) base rock, 30,029 CYs of 3/4"(-) asphalt aggregate, 211 CY of 3/4" DUST aggregate and 1325 CY of 3/8" DUST aggregate.

(b) Asphalt Production: 33,005 tons of asphaltic concrete.

(2) C Company, 46th Engineer Battalion:

(a) Quarry Production: 24,378 CYs of 2"(-) base course and 14,177 CYs of 3/4"(-) asphalt aggregate.

(b) Asphalt Production: N/A

e. Training: During this reporting period the 46th Engineer Battalion has scheduled classes and training on a weekly basis. Subjects included in the training were weapons qualification/familiarization, drug addiction, psychological warfare, supply economy, code of conduct, Geneva convention, and Vietnamese relations. Individuals new in-country received a four day training course by the 1st Air Cavalry Division and a briefing by the 46th Engineer Battalion Staff on unit history and current disposition. The following individuals received specialized training:

Number of Personnel

Subject

1
1

Dispatcher Training
Projectionist Training

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On 23 Oct 1970, Project Buddy, OJT Training of ARVN soldiers, graduated 12 OJT mechanics from Class seven. Class seven was the last scheduled project Buddy activity by this unit.

5. Logistics:

a. Construction Materials On Hand

(1) Lumber

<u>SIZE</u>	<u>QNTY O/H</u>	<u>SIZE</u>	<u>QNTY O/H</u>
1x4	6,400	3x12	180,000
1x6	46,980	4x4	35,000
1x8	5,276	4x6	60,000
2x4	28,253	4x8	6,500
2x6	56,307	4x10	25,000
2x8	10,000	6x6	20,000
2x10	700	10x10	30,000
2x12	90,000	16x16	500

(2) Cement, Portland 8,000 Bags

(3) Rebar 40,000 LBS

b. Equipment Status

(1) Critical Items Received from Depot:

<u>Nomenclature</u>	<u>QTY</u>
Scraper 18 cu yd	1
Semi-Trlr L/B, 25 Ton	1
Tractor, Shld, 830MB	2
Fork Lift, 10,000LB	1
Truck, Cargo 3/4 Ton	2
Truck, Cargo 2 1/2 Ton	1
Compressor, 600 CFM	1

AGDL-01
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Nomenclature

Qty

Distributor Water Truck, 1,000 GL
Grader, Motorized
Loader Scoop, 2 1/2 cu yd
Mixer Concrete, 16 cu yd
Pneumatic Tool & Comp Outfit, 250
Roller, MTZD, 5-8 Ton
Roller, Towed, 13 Wheel
Roller Sheepsfoot
Shop Equipment Contact Maint
Tagline Crane 3/4-1 cu yd
Truck, Dump 5 Ton

1
3
1
1
3
1
1
1
1
1
25

(2) Equipment Shortages RICC-1 Lines

Total RICC-1 items authorized
Number of lines at 100-90%
Number of lines at 90-80%
Number of lines at 80-70%
Number of lines at 70-0%
Number of lines at 0%

133
104
6
4
6
13

(3) Critical Items Shortages

Nomenclature

Shortage

Semi-Trlr, Low Bed 25 Ton
Shop Equipment Org Repair
Floodlight Set
Welding Shop, Trailer, 300 amp
Roller, Air Mobility Vibrating
Radio Set Control Grp, AN/GRA-74
Compressor, 5 CFM
Transit, 1 Min, 16-20 pr
Truck, Earth Borer
Truck, Tractor 10 Ton

8
1
19
3
2
1
1
3
2
3

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c. MCA/LOC Equipment

Loader Scoop, 6 cu yd	1
Crusher 250 TPH	1
Gradall Excavator	1
Roller Self-propelled Vibrating	1
Spreader Aggregate	1
Compactor Hand	3
Roller Self-propelled Hyster	1
Welder 400 amp	2
Welder Attachment	1
Welder 600 amp	1

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d. Republic of Vietnam Armed Forces Improvement:

During this reporting period this battalion has transferred the following equipment to the Armed Forces of the Republic of Vietnam:

<u>Item</u>	<u>Number Transferred</u>
Semi-Trlr, Low Bed 25 Ton	2
Truck, Tractor 10 Ton	3
Tank Unit Liquid Dispensing	2

e. Maintenance:

Timely classes for all supervisors and operators of each type of equipment are held to emphasize maintenance problems peculiar to the existing working conditions. Instructors and maintenance teams are utilized in the field to assist supervisors, operators, PLL Clerks and TAEKS personnel in the practice of proper maintenance procedure and supply documentation. This system has proved successful as evidenced by the 103rd Engineer Co (CS) passing their FY 70 CMMI during this period.

f. Communications:

During this period, the battalion communications section completed its installation of Nestor equipment to provide secure transmission and reception for AN/PRC 77 radios. The necessary connecting cables were obtained to allow connection to PRC 46 radios and give the capability of long range secure transmissions through the relay atop Nui Chau Chan.

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6. Force Development:

During the reporting period, Headquarters and Headquarters Company has been located on Long Binh Post.

A Company, located on Long Binh Post, had been reorganized into a LOC support company which controlled the battalions haul assets until 15 October 70 when the separate companies were reissued their dump trucks.

B Company is located at Xuan LOC with A Company's paving section attached and is engaged in upgrading of QL1.

C Company is at Gia Ray (Camp Pratt) with a quarry platoon of A Company attached and is engaged in the construction of Nui Le Industrial Complex and the upgrade of QL1.

D Company is located at Phu Loi minus one platoon which remains in Long Binh Open to the 92nd Engineer Battalion. D Company (-) is engaged in the completion of shoulder work on QL22.

The 714th Engineer Detachment (PL) is attached to HHC 46th Engineer Battalion and presently working on the Long Binh Jail project with the 92nd Engineer Battalion.

The 702nd Engineer Detachment (PL) is presently attached to C Company 46th Engineer Battalion for the electrical distribution at Nui Le Industrial Complex.

The 103rd Engineer Company (CS) is located at Nui Le Quarry and operates a quarry/crusher complex now partially completed.

7. Command Management:

The emphasis of projects has shifted back to LOC from combat and operational support. However, due to the widespread posture of the line companies, it is still necessary to maintain command emphasis on the concept of individual companies being able to move quickly and accomplish a task utilizing organic equipment as much as possible.

To initiate a quick response program, emphasis has been placed on making required communications available to insure a steady flow of necessary information. Contact team maintenance has been improved to get required mechanics and parts to the deadlined equipment quickly.

8. Inspector General Activities:

During the present reporting period, this battalion has dealt with all IG complaints in a prompt and efficient manner.

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9. PIO:

The Battalion Information Office has an active program. In addition to publishing its own paper, "The Spike" each month, it submits 3 features a week to Brigade. Hometown news releases are forwarded on 90% of assignments to units, promotions, and awards in the battalion.

10. Civic Action:

a. Carpenter Shop, 46th Engineer Battalion issued scrap lumber to the Ho Nai Orphanage to aid in improvements being made.

b. C Company, 46th Engineer Battalion aided the new refugee camp at YT 595064 just east of AP Soui Cat, by issuing scrap lumber for use in erecting living quarters.

c. 103rd Engineer Company (CS) aided the refugee village at AP Soui Cat with empty AP 3 barrels to be used for water storage and protection.

Section 2, Lessons Learned: Commanders Observation, Evaluation, and Recommendation.

1. Personnel

a. Qualified Personnel:

(1) Observation: With the increased extraction of personnel from Vietnam and the associated drops it becomes exceedingly difficult to maintain quality workmanship and equipment operation at levels demanded by the mission.

(2) Evaluation: Individual drops and subsequent retraining (OJT) results in varying degrees of quality production.

(3) Recommendation: More attention should be placed on maintaining replacements on a MOS required basis.

b. Impact of Personnel Transfers:

(1) Observation: During this reporting period a significant number of men were transferred or detached from this unit by higher headquarters with very little prior coordination or advance warning. They were selected by name on the basis of skills, DEROS and reputation. No evaluation of impact was solicited from the unit commander.

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(2) Evaluation: The results of these methods were that line platoons were stripped of many of their best men in the MOS required leaving them with little capability in those areas. In addition to losing their skills, some of the individuals selected were natural leaders who provided momentum and drive to the platoons activities far above that expected from individuals of their grade and position within the unit organization.

(3) Recommendation: It is recommended that future personnel levies not be made by name whenever possible. When it is necessary to levy by name, it should be done with maximum advance notice. Recommend that unit commanders be expected and allowed to demonstrate good faith in providing competent men for personnel levies.

2. Operations:

a. Construction of FSB Eagle:

(1) On 18 July 1970, D Company 46th Engineer Battalion received a mission to provide Operational Support of the 199th LIB at FSB Eagle. Included in the scope of work was the upgrading and maintenance of routes TL 334 (between Vo Dat YT 734320 and YT 855338 Xo Xu) and TL 335 (between Xo Xu and Tanh Linh). The weather during August and September was typical monsoon weather. During our stay of 7 weeks not more than 6 days passed without rain. When it was not raining the sun was out and the temperature was in the high 80's. The Earth Moving platoon work on TL 334 consisted of filling, grading, and compacting of laterite that was obtained from 2 pits, while, the work on TL 335 also consisted of grading and ditching. After 2 days of working, it was found that the water table level on most of TL 335 was no more than 2 or 3 inches below the road surface. This coupled with only 1 or 2 inches of laterite cap made the road very unstable. After the pass of 2 convoys on the road there were 3 holes in the road of 3 feet in depth with a sandy loam bottom, and the water in them being constantly flushed by ground springs. Pumping out the water was tried but the ground springs and water table would fill the holes back in within 15 minutes. A Corduroy road was proposed but the expense and time needed to accomplish this made it unwise. The final solution was to put rock into the holes to stabilize the road to pass convoy traffic. On 9 August 1970 there were 13 dump trucks sent up, each containing 4 CY of 14" minus rock. The trip out there and back completely ruined the road from YT 813340 to YT 920315. For the next 2 weeks there were about 175 trucks brought to FSB Eagle to repair the damage. The rock was finally put down and the road made passable to convoy traffic.

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(2) Evaluation: It is the conclusion of those working on the road that more road was ruined than was repaired. This was due to the fact that the bearing capacity of the soil was not adequate to uphold the weight of the vehicular travel over it. This was true for the tactical convoys and rock convoys as well as the engineer equipment used to work on the road, the convoys were probably more destructive due to their repetitious use of the road.

(3) Recommendations: If any other engineer unit receives a similar assignment they should only do minimum fill work using light equipment. The type of material present was such that more road was destroyed by equipment than could be improved. Also one should stay off the road as much as possible. Travel to and from the work site was as destructive as convoys. By working every day we effectively multiplied the amount of heavy traffic on the road by 3. The job could only be accomplished with any success in the dry season.

b. Use of aggregate spreader in Double Bituminous surface Treatment (DBST) of shoulders.

(1) Observation: As Double Bituminous surface Treatment of shoulders began in this unit, it became obvious that TQ&S aggregate spreaders would have to be modified from eight feet in width to four feet in width to conform to existing specifications of shoulders.

(2) Evaluation: Various types of steel barrier were fabricated approximately four feet in length, conforming to the shape of the interior of the spreader which effectively blocked one half of the length of spread.

(3) Recommendation: It is recommended that barriers be fabricated so that steel plating sits at a slight angle, approximately 12-15°, when installed in the aggregate spreader, to allow aggregate being poured from the modified dump truck bed to slide freely into the unblocked part of the spreader. This action will reduce spillage and eliminate overburdening the part of the spreader which is blocked.

c. Assembly of MPPA

(1) Observation: The assembly of MPPA is a time consuming process due to the number of bolts to be placed and tightened. Since assembly requires capability it also ties up this equipment for quite awhile.

(2) Evaluation: The time consuming process of placing each bolt is detrimental to rapid MPPA assembly.

(3) Recommendation: MPPA installation goes very rapidly when the crane is used only for the placement of a few key bolts. Another crew can follow placing and tightening the remainder of the bolts releasing the equipment to lift on the next MPPA to be constructed.

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Period Ending 31 Oct 1970, HQS CGFOW-65 (R2)

e. Shoulders:

(1) Observation: During the construction of highway shoulders the subgrade has been found to be substandard in width and strength in a significant number of cases.

(2) Evaluation: During original construction the subgrade was built to the exact width required for both traveled way and shoulders; however, the finished shoulder surface was not constructed concurrently with the traveled way. The effects of weather and a high volume of heavy traffic took their toll of the bare shoulder leaving many places soft or washed out.

(3) Recommendation: Recommend that shoulders be constructed concurrently with the traveled way.

(4) Organization: None.

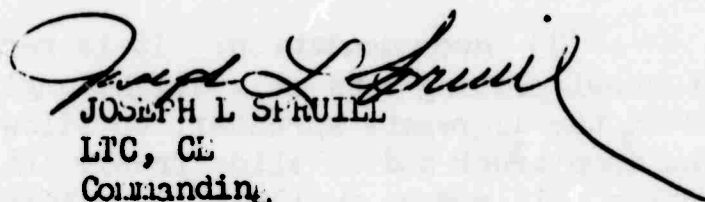
(5) Training: None.

(6) Logistics: None.

(7) Communications: None.

(8) Materials: None.

(9) Other: None.


JOSEPH L. SPRUILL
LTC, CG
Commanding

DISTRIBUTION:

2-CINCSAPAC, ATTN: GPOF-DT (AIR MAIL)

3-CG, USARV, ATTN: AVHDO-DO (COURIER)

3-CG, USAECV (P), ATTN: AVCC-MO (COURIER)

4-CG, 20th Lngr Bde, ATTN: AVBI-OS (COURIER)

15-CG, 159th Lngr Gp, ATTN: LGB-OF (COURIER)

1-File

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EGE-CC (14 Nov 70) 1st Ind

SUBJECT: Operational Report - Lessons Learned, 46th Engineer Battalion
Period Ending 31 October 1970, RCS CSFOR-65 (R2)

DA, HQ, 159th Engineer Group, AFO 96491

21 November 1970

TO: Commanding General, 20th Engineer Brigade, ATTN: AVBI-OS, AFO 96491

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1969.

2. Concurrence with report is submitted.



LEVI A. BROWN
COL, CE
Commanding

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AVBI-OS (14 Nov 70) 2nd Ind
SUBJECT: Operational Report - Lessons Learned, 46th Engineer
Battalion, Period Ending 31 Oct 70, RCS CSFOR-65 (R2)

DA, HEADQUARTERS, 20TH ENGINEER BRIGADE, APO 96491

TO: Commanding General, United States Army Engineer Command
Vietnam (Prov), ATTN: AVCC-MO, APO 96491

1. Submitted in accordance with letter, AVCC-MO, CG, USAECV(P), dated 13 July 1970, subject: Operational Reports - Lessons Learned (ORLL's).
2. This headquarters has reviewed the submitted report and the comments of the indorsing headquarters.
3. Comments follow: Section II paragraph 1 item b. The practice of transferring individuals by name is not standard procedure and only in rare exceptional cases is it employed. This problem again emphasizes the need for cross-training of individuals especially in a critical MOS.

FOR THE COMMANDER:

DLM53ride
D. L. MC BRIDE
1LT, CE
Assistant Adjutant

Copies furnished:
CO, 159th Engr Gp
CO, 46th Engr Bn

AVCC-MO (14 Nov 70) 3rd Ind
SUBJECT: Operational Reports - Lessons Learned for the 46th Engineer
Battalion, Period Ending 31 October 1970, RCS CSFOR-65 (R2)

HQ, US Army Engineer Command Vietnam (Provisional), APO 96491 12 DEC 1970

TO: Commanding General, United States Army Vietnam, ATTN: AVHDO-DO,
APO 96375

1. The significant activities and lessons learned have been reviewed and are an adequate reflection of the unit's operations during this period.
2. Reference item concerning "Critical Items Shortages", page 20, para 5b(3). Concur. Coordination is underway with ICCV to improve the availability of these items. Valid requisitions will be filled to authorized TOE level upon arrival of equipment in-country. No action by DA or USARPAC recommended.

FOR THE COMMANDER:

RP SPENCER JR.

R. P. SPENCER JR.
1LT, CE
Assistant Adjutant

CF:
CG, 20th Engineer Brigade
CO, 46th Engineer Battalion

AVHDO-DO (14 Nov 70) 4th Ind
SUBJECT: Operational Report - Lessons Learned, 46th Engineer Battalion,
Period Ending 31 October 1970, RCS CSFOR-65 (R2)

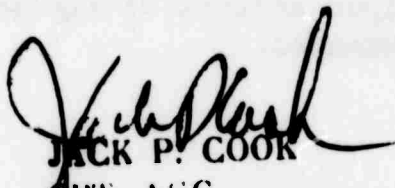
Headquarters, United States Army Vietnam, APO San Francisco 96375 12 JAN 1971

TO: Commander in Chief, United States Army Pacific, ATTN: GPOP-DT,
APO 96558

This Headquarters has reviewed the Operational Report-Lessons Learned
for the quarterly period ending 31 October 1970 from Headquarters, 46th
Engineer Battalion and concurs with comments of indorsing headquarters.

FOR THE COMMANDER:

Cy furn:
USAECV
46th Engr Bn


JACK P. COOK
CPT, AGC
Assistant Adjutant General

GPOP-DT (14 Nov 70) 5th Ind
SUBJECT: Operational Report of HQ, 46th Engineer Battalion,
for Period Ending 31 October 1970, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558 29 JAN 1971

TO: Assistant Chief of Staff for Force Development, Department
of the Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

L.M. Ozaki, 1LT, AGC
/ L.M. OZAKI
CTT, AGC
Asst AG

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Security Classification

DOCUMENT CONTROL DATA - R & D

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